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10/678,935	10/03/2003	Matthew L. Cooper	FXA3001	1199

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EXAMINER

AKHAVANNIK, HADI

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/678,935

Applicant(s)

COOPER

Examiner

Hadi Akhavannik

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/17/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

1. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 1 defines an article of manufacture embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-

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readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed article of manufacture can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 12-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Crinon (6331859, referred to as "Crinon" herein).

Regarding claim 1, Crinon discloses a method for discriminatively selecting key frames representative of segments of a source digital media (see abstract),

comprising the steps of: obtaining said source digital media for which key frames are to be selected (see column 4 line 66 to column 5 line 5 and column 5 lines 10-15 discloses using feature vectors to select the best frame that represents a segment),

wherein said digital information contains a plurality of segments (column 7 line 7 to column 8 line 61 discloses multiple methods of partitioning the source media into segments);

pre-processing said digital information to obtain a plurality of feature vectors and discriminatively selecting a key frame for each segment that is both representative of said segment and distinguishable from other selected key frames (as written above column 5 lines 9-15 discloses selecting the best frame that is the most representative of a set).

Regarding claim 2, Crinon discloses discriminatively selecting a key frame includes: maximizing a goodness function F for said digital media (Crinon discloses selecting vectors of a set based on their relative cumulative distances. This functions to maximize a goodness function because it allows the system to select the most representative frame).

Regarding claims 12-13, the rejection of claim 1 discloses that Crinon finds the feature vectors which represents a frame, that are most representative of a segment or group of frames. Please note that this is essentially the definition of a key frame as defined by Crinon.

Regarding claim 14, Crinon discloses discriminatively selecting a keyframe further includes the steps of: comparing a candidate keyframe with other frames from a

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segment; and, determining a similarity value of said candidate keyframe dependent upon said step of comparing (see column 5 lines 1-55, as it discloses comparing the cumulative distances of the vectors that represent the keyframe to the other feature vectors.

Regarding claim 15, Crinon discloses finding both the similarity and dis-similarity values in column 5 lines 35-65. Crinon discloses finding the greatest and least cumulative distances.

Regarding claim 16, Crinon discloses discriminatively selecting a keyframe further includes the steps of: comparing a candidate keyframe for a first segment of said plurality of segments with other frames from said first segment; determining a similarity value of said candidate keyframe dependent upon said step of comparing a candidate keyframe for a first segment; comparing said candidate keyframe with frames from the remaining plurality of segments; determining a dis-similarity value of said candidate keyframe dependent upon said step of comparing said candidate keyframe with frames from the remaining plurality of segments; and, selecting a keyframe based upon said similarity value and said dis-similarity value that is both representative of said first segment and distinguishable from other selected keyframes (the rejection of claim 15 and column 5 line 65 to column 8 line 62 disclose a segmenting means which finds the similarity value and the dissimilarity value by comparing the feature vectors of each key frame against its segment. In addition it teaches that the key frame must differ substantially from the other segments in column 5 lines 9-26).

Regarding claims 17-20 please see the rejection of claims 1-2 and 12-16 as they disclose all aspects of claims 17-20.

Regarding claim 21, the rejection of claim 16 above discloses all aspects of claim 21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crinon (6331859, referred to as "Crinon" herein) in view of Hansen et al. (20020038456, referred to as "Hansen" herein).

Regarding claim 3, Crinon discloses all aspects of claim 3, except he does not explicitly disclose using a plurality of digital media.

Hansen discloses using a plurality of digital media (see abstract, paragraphs 26-27 and 85-86 as they disclose concatenating multiple types of media such as still media, video clips and other visual and audio clips).

It would have been obvious at the time of the invention to one of ordinary skill in the art to include in Crinon a multiple type of media concatenating method as taught by Crinon. The reason for the combination is because it makes for a more robust system that is able to function on multiple types of system that are presented to it in one stream.

Regarding claim 4, the rejection of claim 3 discloses concatenating the plurality of digital media.

Regarding claim 5, paragraph 26 of Hansen and column 4 lines 34-65 of Crinon discloses using digital video.

Regarding claims 6-7, paragraph 26 of Hansen discloses both audio and image data.

Regarding claim 8, the examiner takes official notice that it would have been exceedingly obvious to one of ordinary skill in the art to include in the combination of Crinon and Hansen digital text. The reason for this is because Hansen already discloses "other visual and audio data" (paragraph 26 of Hansen) and digital text is a common type of other visual data.

Regarding claim 9, Hansen discloses concatenating multiple digital media such as image and video (see the rejection of claim 3).

Regarding claim 10, Crinon discloses determining if multiple digital media are present in order to concatenate the digital media into a single digital media (see the rejection of claim 3, specifically see the abstract).

Regarding claim 11, the rejection of claim 3 discloses that multiple micro channels, each having their own digital media, are sent to the distribution system to create one stream of digital data. And, in order to concatenate the digital media the system must realize what types of media are being sent from each micro channel. See paragraphs 84-87 of Hansen for more details.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Metz et al. (5768539) discloses a media concatenating method.

Gong et al. (7016540) discloses a feature vector key frame selecting means.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Akhavannik whose telephone number is 571-272-8622. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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6/29/07


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